Fahrenheit. This causes problems such as odors, skin problems, tiredness and discomfort. A person also releases mechanical energy during walking or jogging, which can be used to cool off the inside of the shoe. While jogging or walking, people step in different ways - from the heel to the toe of the foot, on the whole foot or on just the toe of the foot. In all three cases, the toe of the foot is used (See FIG. 1A,1B,2A,2B,2C). For this reason, most of the mechanical components are installed under the toe.

BRIEF SUMMARY OF THE INVENTION

The product that is being presented here involves an air-conditioning system installed inside the shoe. The system will be used to pump fresh air into and stale air out of the shoe, as well as to decrease the temperature inside the shoe. The exact functions are described in the Detailed Description of the Invention.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

Figures 1A,1B

These figures depict the lever system of the distribution of the weight, the force and the fulcrum when the heel is lifted.

Figures 2A,2B,2C

These figures depict the skeletal disposition of the foot.

Figure 3A

This figure depicts the bottom view of the air - conditioning system with the part locations labeled accordingly.

Figure 4A

This figure depicts the side view of the air - conditioning system with the parts labeled accordingly.

Figure 5A

This figure depicts the bottom view of the mechanical component of the air - conditioning system with the parts labeled accordingly.

Figure 6A

This figure depicts the top and side views of the complete framework of the AC unit with the internal components labeled accordingly.

Figure 7A

This figure depicts the circuit diagram of the air - conditioning system with the circuit components labeled accordingly.

Figure 8A,8B

These figures depict the top and side views of the air pump with the internal components labeled accordingly.

DETAILED DESCRIPTION OF THE INVENTION

The AC system of the shoes will consist of three parts: exhaust system, AC unit and temperature control. The exhaust system will include three mechanical air pumps - AP1, AP2 and AP3. AP1 and AP2 will be installed under the toe and AP3 will be installed under the heel of the foot (See FIG. 3A, 5A). The air pumps will resemble rubber balloons, which will contain one-way valve (See FIG. 8A,8B). AP1 will be used to pump stale air out of the shoe. AP2 and AP3 will be used to pump fresh air into the shoe.

The AC unit will consist of a compressor, filter-dryer, condenser, evaporator, condenser fan and evaporator fan (See FIG. 6A). The AC unit will be located outside of the shoe and will pump cool air into the shoe. It will operate through a 9V DC battery. The battery will be charged by either a portable battery charger or a plug-in battery charger. The portable battery charger will transfer mechanical energy into electrical energy and will be located under the toe.

The temperature control will consist of a digital thermometer, thermostatic sensor (THS), thermostat (TH), foot switch (FS) and solenoid valves (SV1 and SV2) (See FIG. 7A). The temperature control will operate

through the same 9V DC battery. The digital thermometer will be located outside of the shoe and will display the temperature inside the shoe. The THS will be located inside the shoe near the toe. The TH will be located outside of the shoe near the thermometer (See FIG. 4A). The solenoid valves will be located inside the shoe and will be used to shut off the incoming air through the tubes going to AP2 and AP3. When the temperature inside the shoe will exceed the set temperature on the TH, the THS will close and will charge the AC unit. Both SV1 and SV2 will open at that time. When the temperature inside the shoe will be the same or less then the set temperature on the TH, the THS will open and discharge the AC unit and close and charge SV1 and SV2. The FS will be closed when the foot will be inside the shoe.